expedition will sail, for in that time men can be trained. Just now there must be many young men to whom it would be sheer joy to be destined for units in a new *Challenger* landing party, and the prospect of such an adventure would be a powerful incentive to sustained and earnest training. No doubt this is a matter which those who are trying to organise the expedition have in mind. No doubt also the evident shortcomings of the old expedition are being scrutinised—one suspects on reading the "Narrative" that there was a good deal of what is now called "joy-riding." These are details, perhaps, that are incidental to the planning of the scientific work, but they seem to be really important.

J. J.

To the foregoing account of what it may reasonably be expected that an oceanographic expedition would accomplish, and of the preparation that will be necessary, we have now regretfully to append the announcement that the council of the British Association has reluctantly decided that the organisation of such an expedition on an adequate scale cannot be profitably promoted at the present time.

In accordance with the resolution passed by the general committee at the Cardiff meeting, the council appointed a special oceanographic committee to inquire into the details of the suggested project and to prepare a reasoned statement as to the need for such an expedition and its probable scale, scope, equipment, and cost. This memorandum has now been completed, and is available for use when the occasion arises; but in view of the present demand for economy in all national expenditure, and after consultation with trustworthy authorities, both scientific and administrative, the council at a recent meeting adopted a report by the general officers to the effect that, while retaining the scheme under consideration, no further action should be taken until circumstances seem more favourable for public expenditure upon such an undertaking.

The Oceanographic Committee will remain in existence with a watching and organising brief ready to revive the project whenever a favourable opportunity arises, and the council will doubtless report upon the whole matter to the meeting of the general committee of the Association at Edinburgh next September.

It is hoped that the proposed expedition is postponed only for a season, and that the interval may be usefully employed in perfecting plans and making other essential preparations.

Problems of Life and Mind.

(1) *The Ways of Life: A Study in Ethics.* By Stephen Ward. Pp. 127. (London: Oxford University Press; Humphrey Milford, 1920.) 6*s.* 6*d.* net.

(2) *Symbiosis: A Socio-physiological Study of Evolution.* By H. Reinheimer. Pp. xii+295. (London: Headley Bros., 1920.) 15*s.* net.

(3) *Free Will and Destiny.* By St. George Lane-Fox Pitt. With *Open Letter on the International Moral Education Congress and League of Nations.* By the Rt. Hon. Sir Frederick Pollock, and appendix by Frederick J. Gould. Pp. xix+100. (London: Constable and Co., Ltd., 1920.) 5*s.*

(4) *Beauty and the Beast: An Essay in Evolutionary Aesthetic.* By Stewart A. McDowall. Pp. vii+93. (Cambridge: At the University Press, 1920.) 7*s.* 6*d.* net.

THE solution of the problems of life and mind, to which George Henry Lewes addressed himself in mid-Victorian times, still exercises the thought of to-day. It is noteworthy that, although he did not make full use of the concept, Lewes, following Mill, urged that the kind of effect he called "emergent" (and Mill "heteropathic") is qualitative, new, or, as it is sometimes termed, "constitutive," and cannot, like "resultant" effects, be quantitatively deduced from given antecedents by a process of algebraical summation. On this, much modern interpretation turns. It does not, of course, follow that there are not laws of qualitative emergents, just as there are quantitative laws of resultants. Nor does it follow that, in life and mind, there is no hereditary transmission of emergent qualities. Nay, rather it may be said that the laws and the history of evolution are founded on emergence as, in the long run, the keynote of progress. In the system of philosophy which Prof. Alexander has recently laid before us the stages of emergence from the bosom of space-time are fully discussed.

Noteworthy, too, is Lewes's treatment of the unconscious, which, for him, was to be interpreted, after mid-Victorian fashion, in terms of physiology. That does not satisfy the thinkers of to-day. Many claim that, in psychical terms, all that is psychical must be interpreted; and if, in the midst of our fully conscious life, with its memory and anticipation, there surges up much that is new, and that, from its very newness, carries neither the again-ness of the one nor the not-yet-ness of the other, this must be interpreted as the outcome of psychical integration which has nowise been established in the conscious life of the individual concerned. It is not here a case, as in habit, of the submergence of that which has been integrated in the light of conscious purpose, but of the rising above the threshold of that which was integrated outside that individual life.

There are thus two forms of integration: (i) that which is established in the course of individual life above—for the most part in human life well above—the threshold of consciousness; and (ii) that which comes to each one of us in integrated form from the subliminal part of the psychical system to which we are heir. Neither of these can now be neglected; but one or the other may receive special emphasis. The stress in Mr. Stephen Ward's book (1) is on integration in the field of thought. Not readily is there to be found in such short compass so suggestive a treatment—no mere summary, but touched throughout with individuality—as that which is the foundation of his study of ethics. He insists that, for thought, every fact is a conceptualised fact, and inevitably to be taken as universalised; and "while we think in the present, *what* we think of is either past or future." Hence, "inasmuch as the present is not expressible in thought, it follows that the purpose of our being is not expressible in thought. For thought, the word 'purpose' always has a future reference; for life, our purpose is to be what we are, to have a present." And while, in life, so much is provided *for* thought to discuss, yet of this a great deal is nowise provided *by* the thought of the individual or the race. Its integration has been otherwise established.

The goal of reason is truth, and "the first necessity of reason is that it should be one and one only. There cannot [ultimately] be several kinds of truth. It must be self-standing and complete, for if it were not complete, it would depend on something outside itself—something, that is, which would be more true than itself." Whence "it is obvious that no experience of which we are capable could possibly fulfil these conditions." But the perfectly right, as the goal of duty, is in like position. Man is bound "to realise eventually that, situated as he is, all that he can know of reason or morality is that they are *not* what he is, because both require a freedom or completeness which his life is unable to supply." They are unattainable ideals, but thereby they lose nothing of their grandeur.

Here morality is dealt with *in excelsis*. A reasonable being and a moral being are one and the same—but beyond our reach. On the other hand, Mr. Reinheimer (2) seeks the roots of morality in the very beginnings of life. His advocacy of symbiosis, in his extended sense of the word, is well known from his previous publications. Making due allowance for some over-emphasis, pardonable in the advocate, what one may fairly regard as his main contention—that integration in bionomic relatedness is essential to the good of all concerned in the intricate web of life—is sound at the core. In this mesh of relatedness the nutritive factors demand as careful study as those which subserve the end of reproduction. Life as a whole is an integrated symbiotic whole; and if we be "sharers in a wholesome pan-psychism" we may fairly seek and find in the very foundations of organic evolution the foundations also of the integration of the unconscious, neither identifying the psychical with the physiological, nor accepting the mythological views of Maeterlinck and Samuel Butler (which are considered and criticised by Mr. Reinheimer), but regarding them as distinct, though, in some way, deeply and closely interrelated. Mr. Reinheimer, indeed, suggests that the physical and mental work together in internal or domestic symbiosis.

Thus, while, for Mr. Ward, at the upper limit of human thought is the concept of duty which under the conditions of our life cannot be reached, for Mr. Reinheimer the foundations of duty are laid in that integrated biological reciprocity to which he extends the concept of symbiosis.

Intermediate between these different levels on which the problems of life and mind may be discussed is the doctrine of the complex as affording the foundations on which a superstructure of consciousness is built. Mr. Lane-Fox Pitt, in his "Purpose of Education," of which his essay on "Freewill and Destiny" (3) is the sequel, says that a complex may be defined as a dynamic system of closely associated ideas linked together in some experience, or succession of experiences, with corresponding emotions, perceptions, memories, interests, and range of volitions. In every individual, he says, there are "egos" innumerable, and they all strive. Freedom is the escape from this bondage of strife. Our destiny is the conquest of this multiplex egoism. Hence it would seem that, alike in the realm of ethical thought, with which Mr. Ward deals, in that of symbiotic interrelatedness under Mr. Reinheimer's treatment, and in that of a complex of complexes founded on the unconscious, as interpreted by Mr. Lane-Fox Pitt, the direction of progress is towards further and fuller integration of factors which, under the correlative process of differentiation, tend to fall asunder.

When, in this difficult problem of the unconscious, we dig down to essentials, the question arises whether such a definition of a complex as Mr. Lane-Fox Pitt suggests can be accepted, at any rate so far as "the submerged part of the iceberg" is concerned. Are there ideas, or memory-images, or wishes, or thoughts in the unconscious? Or are there psychical processes, tendencies, dispositions, urges, hormes, or however else they may be named, which determine the character and colour of ideas which, as such, live only above the threshold? Under the influence of what some regard as picturesque Herbartian mythology, of Prof. Bergson's fascinating poetry, of the rather repellent Freudian treatment of the latent dream, we have an interpretation in terms of unconscious ideas and memory-images. Is this science or mythology? That is the central question, whatever the answer may be.

Lewes was tireless in his emphasis on the distinction between what he called empirical and metempirical treatment—between what one may speak of as integration in fact, and the real or supposed cause or source to which that integration is due. In his illuminating discussion of æsthetics (4), founded on Croce, but containing some interesting modifications of treatment, Mr. McDowall accepts the view that the only reality is living spirit, and that beauty is expression, or the form given by the spirit to its intuitions, through which it makes contact with reality; but whereas for Croce the living spirit is immanent and unfolding, for Mr. McDowall its ultimate explanation is in its relatedness to a transcendent source whence all personality is derived. *Our* "expression" enables us to realise a greater and more perfect Expression than ours. Love is relationship, and beauty the expression of relationship; but there must be reciprocity. Give and take must go hand in hand in the realm of personal being, which is the only ultimate reality. Beauty in evolution is the progressive purification of that which may have its temporal foundations in that impulse of sex which psycho-analysis reveals.

Now one may agree with Lewes that empirical and metempirical solutions of the problems of life and mind should be carefully distinguished. It may be that in matters of science the latter may, by a self-denying ordinance, be rigorously excluded; but they cannot be ruled out from philosophical discussion; and Mr. McDowall's well-developed thesis, in this and other writings, demands full consideration before a court in which not only men of science, as such, are represented.

Regarded, however, from the purely empirical point of view, æsthetic expression and its correlative impression must take their due place among the problems of life and mind. To whatever source the integration may be due, integration there is. Nay, but is there not more than integration? Is there not the progressive evolution of the new? Unquestionably there is; and for its interpretation we must accept the concept of emergence, emphasised by Lewes and elaborated by Prof. Alexander. How comes it that in thought there arise universals which cannot be got out of a mere summation of particulars? How comes it that the proteins of even closely allied species are different? How comes it that the unconscious complex has characters all its own? How comes it that from lust in the animal there is the beautiful expression of love in man? In each case there are emergent characters which cannot be interpreted as resultants in terms of algebraical summation. Science must accept emergence as a natural datum, in the absence of which there would be no evolution to be interpreted. It then falls to the lot of philosophy to ask and, if it may be, to answer the deeper question: What is it that makes emergents emerge?

Plant Biology.

A Text-book of Plant Biology. By Prof. W. Neilson Jones and Dr. M. C. Rayner. Pp. viii+262+vi plates. (London: Methuen and Co., Ltd., 1920.) 7s.

MANY have tried their hands at writing books on botany, and although not a few have achieved some success, none has won it in that full measure which to the uninitiated might seem so easy of achievement. The subject is so rich and varied, and plant life so intriguingly beautiful, that it is, indeed, hard to understand why we have to wait so long for a really good elementary text-book of botany. It may be that the older among us did in our youth drink too deep of the German springs of botanical knowledge, and that the supplies from those sources, though excellent for local consumption, have the defect which is often inherent in their mineral and yet stronger waters—that of travelling ill; or it may be that the writing of a good text-book of botany is in truth a peculiarly difficult task.

The science owns a broad domain—morphology, physiology, pathology, all lie within its range, and those botanists are few who have wide knowledge of them all. Moreover, the laboratory, which has done so much for research, has not proved so useful as a centre for the dissemination of knowledge. It is not a good propagating house, and as plants grown therein are apt to thrive but poorly, so books written by the dwellers in laboratories are perhaps lacking in freshness. This at